



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:

OSB1999-0141

July 13, 1999

Ms. Karen Kochenbach
Portland District, Corps of Engineers
Attn: Jan Stuart
P.O. Box 2946
Portland, Oregon 97208

Re: Section 7 Formal Consultation for Northwest Natural (Permit ID No. 98-1272), Washington and Columbia Counties, Oregon

Dear Ms. Kochenbach:

This responds to a May 25, 1999, letter from W.B. Paynter, Corps of Engineers (Corps), to Rick Applegate, National Marine Fisheries Service (NMFS), requesting formal consultation on Oregon Coast coho salmon (*Oncorhynchus kisutch*) and informal consultation on Upper Willamette River steelhead (*O. mykiss*). The Corps is proposing to issue a permit to Northwest Natural Gas for construction of a pipeline in Washington and Columbia Counties, Oregon. The May 25, 1999, letter and accompanying biological assessment were received by NMFS on May 27, 1999. The Corps determined that issuance of the subject permit for the pipeline construction would likely adversely affect Oregon Coast coho salmon and requested formal consultation for this species. The Corps further determined that issuance of the subject permit would not likely adversely affect Upper Willamette River steelhead and requested informal consultation for this species. NMFS addressed Upper Willamette River steelhead through a separate consultation (letter dated June 22, 1999).

The Oregon Coast coho (OC coho) salmon Evolutionarily Significant Unit (ESU)¹ was listed as

¹For the purposes of conservation under the Endangered Species Act, an Evolutionarily Significant Unit is a distinct population segment that is substantially reproductively isolated from other conspecific population units and represents an important component in the evolutionary legacy of the species (Waples 1991).



threatened under the ESA on August 10, 1998 (63 FR 42587). The ESU includes all naturally spawned populations of coho salmon in Oregon coastal streams south of the Columbia River and north of Cape Blanco. Critical habitat for this species was proposed on May 10, 1999 (64 FR 24998). OC coho salmon are present in the Nehalem River watershed where much of the proposed action would occur. The Nehalem River watershed is included in the proposed critical habitat designation.

This letter constitutes formal consultation and serves as a biological opinion for OC coho salmon. The objective of this biological opinion is to determine whether the proposed action is likely to jeopardize the continued existence of this species or adversely modify proposed critical habitat.

PROPOSED ACTION

The proposed action is the issuance of an individual permit under Section 404(b)(1) of the Clean Water Act to Northwest Natural Gas (NWN). The permit would allow NWN to construct a 30-mile, 24-inch diameter, buried pipeline to carry natural gas from Mist, Columbia County, Oregon to the Bacona Blowdown Station roughly 2 miles northwest of Snooseville Corner in Washington County, Oregon. Much of the new pipeline would be located adjacent to an existing 16-inch pipeline. Deviations from the existing pipeline's route would occur to avoid homes, wetlands, and geologically unstable areas. Construction would begin in the summer of 1999.

The proposed pipeline would cross a total of 50 streams and 42 wetland areas. Eighteen of the waterway crossings are in fish bearing streams. Eleven of the 18 crossings would occur in streams that support OC coho salmon. These streams are the Nehalem River (two crossings), East Fork Nehalem River (two crossings), Lindgren Creek, Messing Creek, Battle Creek, Fall Creek, Crooked Creek, Elk Creek, and Kenusky Creek (one crossing each). Ten of the 11 crossings would be accomplished by boring under the stream. Directional boring would be used on nine crossings and a "jack-and-bore" methodology would be used for one crossing. A trench and flume method would be used to install pipe in Fall Creek, as it was determined that boring would be infeasible due to topographic features, geotechnical constraints, and human safety concerns. Although not anticipated, blasting may be required at crossings where bedrock is encountered.

For the Fall Creek crossing, a coffer dam would be placed to dewater roughly 30 feet of stream and a flume installed to pass flow. A fish biologist would be on site during coffer dam placement to move any fish that may be present. A block net or seine net would be used to move fish downstream from the area to be dewatered. NWN expects that it would not take more than one day to complete pipe installation. If more than one day (24 hours) is required, fish passage would be provided.

All in-water work would be completed during the Oregon Department of Fish and Wildlife (ODFW) preferred in-water work window of July 15-August 31 for the Upper Nehalem River and tributaries (upstream from the Highway 26 bridge). In-stream construction would occur before adult OC coho salmon return to spawning beds and after fry emerge from the gravel. This work period is also designed to occur during a period of typical low flow.

BIOLOGICAL INFORMATION

Although there are currently limited data to assess population numbers or trends, the NMFS believes that all coho salmon stocks comprising the Oregon Coast coho salmon ESU are depressed relative to past abundance. The status and relevant biological information concerning Oregon Coast coho salmon are well described in the proposed and final rule listings from the Federal Register (July 25, 1995, 60 FR 38011; and May 6, 1997, 62 FR 24588, respectively), and Weitkamp *et al.* (1995).

Abundance of wild coho salmon spawners in Oregon coastal streams declined during the period from about 1965 to about 1975 and has fluctuated at a low level since that time (Nickelson *et al.* 1992). Spawning escapements for this ESU may be at less than 5% of abundance in the early 1900s. Contemporary production of coho salmon may be less than 10% of the historic production (Nickelson *et al.* 1992). Average spawner abundance has been relatively constant since the late 1970s, but preharvest abundance has declined. Average recruits-per-spawner may also be declining. The Oregon Coast coho salmon ESU, although not at immediate danger of extinction, may become endangered in the future if present trends continue (Weitkamp *et al.* 1995).

Oregon Coast coho salmon, as with other anadromous salmonids, face numerous and varied influences which affect their productivity. Their present depressed condition is the result of several longstanding, human-induced factors (e.g., habitat degradation, harvest, water diversions, and artificial propagation) that exacerbate the adverse effects of natural environmental variability (drought, floods, and poor ocean conditions). NMFS (1997b) identifies and discusses the following freshwater factors that contribute to the decline of coho salmon: changes in channel morphology, substrate changes in streams, loss of instream roughness, loss of estuarine rearing habitat, loss of wetlands, loss/degradation of riparian areas, water quality degradation, changes in flow, blockage/passage impediments, elimination of habitat, direct take, and cumulative effects.

CRITICAL HABITAT

Critical habitat for Oregon Coast coho salmon includes Oregon coastal river basins (freshwater and estuarine areas) between Cape Blanco and the Columbia River. Freshwater critical habitat includes all waterways, substrates, and adjacent riparian areas—areas adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter—below longstanding, natural impassable barriers (i.e., natural

waterfalls in existence for at least several hundred years) and several dams that block access to former coho salmon habitat. As stated above, the proposed action area is included in proposed critical habitat.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA as defined by the consultation regulations (50 CFR 402). NMFS must determine, (1) whether the action is likely to jeopardize the continued existence of the listed species; and (2) whether the action is likely to destroy or adversely modify designated critical habitat.

This consultation involves defining the biological requirements of the listed species; evaluating the relevance of the environmental baseline to the species' current status; determining the effects of the proposed or continuing action on listed species; determining whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the environmental baseline and any cumulative effects and considering measures for survival and recovery specific to other life stages; determining whether the action will appreciably diminish the value of critical habitat for both survival and recovery of the species; and identifying reasonable and prudent alternatives to a proposed or continuing action that is likely to jeopardize the continued existence of the listed species.

Biological Requirements

The biological requirements of Oregon Coast coho salmon are discussed in Weitcamp *et al.* (1995). The first step in the method NMFS uses in applying the ESA standards of Section 7(a)(2) to Pacific salmonids is to define the species' biological requirements that are most relevant to each consultation. The NMFS finds that these biological requirements are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for the survival and recovery of Oregon Coast coho salmon. Individual environmental factors include water quality, habitat access, physical habitat elements, river channel condition, and hydrology. These are measurable variables, with properly functioning values determined by the best available information as those necessary for sufficient prespawning survival and distribution, spawning success, egg-to-smolt survival, smolt emigration survival and timing, and smolt condition to allow the long-term survival of the species. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of these species.

Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area for this

consultation includes the Nehalem River, East Fork Nehalem River, Lindgren Creek, Messing Creek, Battle Creek, Fall Creek, Crooked Creek, Elk Creek, and Kenusky Creek. These streams contain good spawning, rearing and migratory habitat for OC coho salmon, which do occur in each of these streams.

The bulk of production for this ESU is skewed to its southern portion where the coastal lake systems (e.g., Tenmile, Tahkenitch, and Siltcoos Basins) and the Coos and Coquille Rivers are more productive. However, the action area is located in the northern half of the ESU where production is more depressed and habitat in the action area is underseeded.

The NMFS described the current population status of OC coho salmon in Weitcamp *et al.* (1995) and in the OC coho salmon proposed and final rules (July 25, 1995, 60 FR 38011; and August 10, 1998, 63 FR 42587). In general, the current depressed condition for OC coho salmon is the result of several longstanding, human-induced factors (e.g. habitat degradation, water diversions, harvest, and artificial propagation) that serve to exacerbate the adverse effects of natural environmental variability from such factors as drought, floods and poor ocean conditions. Within the action area, habitat degradation has occurred from timber harvest, road construction, water diversions, and agriculture.

ANALYSIS OF EFFECTS

Effects of Proposed Action.

The habitat parameters that could potentially be affected by the proposed pipeline construction are water quality (temperature, sediment, and chemical contamination), habitat access, and large woody debris recruitment. Direct impacts could occur on juvenile OC coho salmon if any are rearing in Fall Creek during the time of trench construction and entrained within the coffer dam structure. Direct impacts could also occur if the use of explosives are required to break through bedrock. The existing right-of-way would be used, therefore precluding the need for new road construction.

Water Quality

a. Temperature

It is not expected that water temperatures would be degraded as a result of pipeline construction. Ten of the 11 crossings would be bored. There would be no in-water work and no removal of riparian trees. At the Fall Creek crossing, 20 alder trees would be removed and placed in Fall Creek for large woody debris. About 10 linear feet of riparian shading, on each bank, would be removed. This area would be replanted with alders, conifers, and native shrubs, but it would likely take 6-10 years before canopy cover is restored. The remainder of riparian vegetation will remain intact along the stream reach where the crossing would take place. Therefore, NMFS does not expect that the removal of 10 feet of shade trees on each bank would result in an increase of water temperature for Fall Creek.

An additional 30 streams would be crossed by trenching. None of these streams are known to be occupied by OC coho salmon, but they may provide good quality water to streams where OC coho salmon occur. The same restoration methods proposed for Fall Creek would be applied at these crossings and therefore should not result in any measurable increase of water temperatures.

b. Sediment

No excess sedimentation would occur at the 10 sites that would be crossed by boring. The remainder of the sites, which would be crossed by trenching, including Fall Creek, may experience minor, short-term releases of sediment due to removal of riparian vegetation and construction work in the stream channel. Standard Best Management Practices used for controlling sediment would be implemented. Construction in the streams would occur during periods of low flow which would minimize transport of sediment downstream and allow much of the work to be accomplished outside of the stream flow. In addition, fluming the stream flow around the area to be trenched would eliminate most of the potential for releasing sediment. Monitoring would be implemented to ensure that turbidity levels do not exceed 10% above background and construction work would be stopped during periods of heavy rain. NMFS expects that these measures should minimize the potential for excessive releases of sediment.

c. Chemical Contamination

As with all construction activities, there is potential for accidental release of fuel, oil, and other contaminants. To minimize this potential, all refueling would be conducted at a minimum distance of 100 feet from any watercourse. Hazardous spill containment and cleanup equipment would be kept at all refueling sites. All equipment would be inspected and cleaned prior to entering wetlands and streams. Construction staging areas would be located at upland sites. Finally, Best Management Practices required by the Corps and the State of Oregon would further minimize the potential for accidental release of hazardous materials.

Habitat Access

Habitat access to both upstream and downstream areas would be maintained at all sites. Boring methodology would not disrupt habitat access and the flumes would be installed in such a manner that fish would be able to pass should they chose to do so. Noise and vibration from trench excavation and pipe burial may disrupt normal fish movement. However, it is expected that this activity would not take more than one day at each site, so disruption of normal fish movement would be short-term and is unlikely to impact normal behavior patterns. Furthermore, timing of the construction activities would preclude the presence of OC coho salmon adults, seaward migrating juveniles, and incubating eggs and pre-emergent fry.

Large Woody Debris Recruitment

No large wood would be removed at stream crossings where boring methodology is employed. There would be a minor loss of large wood recruitment potential where trenching may require the removal of large riparian trees. In Fall Creek, 20 alders would be removed and it is expected that it would take 6-10 years before the trees that are planted would be large enough to provide a full canopy cover and potentially serve as large organic debris. As noted above, except for the impacted corridor where the pipeline would be buried and where there is existing roads, the riparian area along the affected reach of Fall Creek is intact. Therefore, NMFS does not expect the proposed action to diminish the potential for large wood recruitment to Fall Creek.

Fish Entrainment

A 30-foot reach of Fall Creek would be dewatered to allow for trench excavation and pipeline burial. Prior to flume installation and dewatering, a fisheries biologist would use a block net or seine net to move any fish that may be present downstream. This activity would minimize the potential for fish to be entrained behind coffer dams.

Blasting

While not anticipated, blasting may be required to break through bedrock. NWN would contact the Corps, ODFW, and NMFS before any explosives are used. As with dewatering (see above under *Fish Entrainment*), a fish biologist would use a seine or block net to herd fish out of the immediate action area before blasting commences, therefore reducing the potential for fish mortality. Blasting would occur in the dry and would not add any significant sediment to downstream areas.

Cumulative Effects.

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities are being (or have been) reviewed through separate section 7 consultation processes. Therefore, these actions are not considered cumulative to the proposed action.

The NMFS is not aware of any future new (or changes to existing) non-Federal activities within the action area that would cause greater impacts to listed species than presently occurs. The NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

CONCLUSION

Based on the available information, NMFS has determined that the Corps' issuance of a permit to NWN for construction of the subject gas pipeline is not likely to jeopardize the continued existence of OC coho salmon or adversely modify proposed critical habitat. In reaching this conclusion, NMFS determined that the survival and recovery of OC coho salmon would not be appreciably diminished by the proposed action. This conclusion was reached primarily because: (1) All in-water work would be accomplished before adults return to spawn and after juveniles have migrated to sea; (2) all but one of the crossings in streams that support OC coho salmon would be bored, therefore precluding the need for in-water work and riparian disturbance; (3) all in-water work would be accomplished during periods of low flow which would allow for much of the trenching to be conducted out of the stream flow and would minimize the potential for sediment transport downstream; (4) few, if any, juvenile coho are expected to be present in much of the action area during the period of in-water; (5) the potential for juvenile OC coho salmon to be stranded at the Fall Creek site would be kept to a minimum as a fisheries biologist would use a seine or block net to herd fish downstream before the affected reach (30 linear feet) is dewatered; (6) significant releases of sediment to downstream areas are unlikely due to the timing of in-water work (low flows and period of minimal rain) and implementation of erosion control measures; (7) potential for entry of hazardous materials to the stream channel would be kept at a minimum as all staging would be located in upland locations, fueling would not occur within 100 feet of any watercourse, and all equipment would be inspected and cleaned prior to entering any watercourse; and (8) all disturbed riparian area would be replanted with conifers, alders, and native shrubs and it is not expected that large woody debris recruitment potential would be impacted.

CONSERVATION RECOMMENDATIONS

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS has no additional conservation recommendations regarding the action addressed in this opinion.

REINITIATION OF CONSULTATION

Reinitiation of consultation is required: (1) If the action is modified in a way that causes an effect on the listed species that was not previously considered in the biological assessment and this biological opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

Amount or Extent of the Take

The NMFS anticipates that the proposed action covered by this biological opinion has more than a negligible likelihood of incidental take of juvenile OC coho salmon resulting from the use of nets to herd fish out of areas to be dewatered (i.e., Fall Creek site). Effects of actions such as this are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on the species' population levels. The removal of riparian vegetation at the trench crossing sites would result in a minor, short-term loss of shading and large wood recruitment; and there would likely be a temporary, localized increases in sediment delivery to the streams where trenching would occur. The effects of these activities on population levels are also largely unquantifiable and not expected to be measurable in the long-term. This is because the impacts are relatively small and not expected to appreciably add to cumulative effects. Furthermore, where riparian vegetation is removed, NWN would plant native trees and shrubs and the impacted areas would recover relatively quickly (6-10 years) and not diminish the habitat functions discussed in the Analysis of Effects section above.

Therefore, even though NMFS expects some low level of incidental take to occur due to the action covered by this biological opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In instances such as this, the NMFS designates the expected level of take as "unquantifiable." Based on the information provided, NMFS anticipates that an unquantifiable but low level of incidental take could occur as a result of the action covered by this biological opinion. Moreover, the small amount of take that may occur is expected to be non-lethal.

Effect of the Take

In this opinion, NMFS has determined that the level of anticipated take associated with the natural gas pipeline construction in the Nehalem River drainage is not likely to result in jeopardy to the listed OC coho salmon or result in destruction or adverse modification of proposed critical habitat.

Reasonable and Prudent Measures

The NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of OC coho salmon resulting from the proposed action.

1. The Corps shall ensure that NWN and its contractors shall minimize the potential for incidental take of OC coho salmon due to temporary dewatering of streams at trenched pipeline crossings.
2. The Corps shall ensure that at least 80% of the planted native trees and shrubs survive in the first five years after completion of the proposed action.
3. The Corps shall require that NWN notify NMFS and ODFW should blasting be necessary.

D. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

- 1a. All general and specific conditions listed in the Corps' permit shall be implemented by NWN and its contractors.
- 1b. Any injury or mortality to OC coho salmon observed by NWN, its contractors, or ODFW observers shall be reported to the NMFS within 7 days.
- 1c. The Corps shall provide NMFS with copies of all monitoring reports required in its permit.
- 2a. The Corps shall require in its permit that monitoring be conducted to ensure that there be a minimum of 80% survival for planted native trees and shrubs.
- 2b. The Corps shall provide NMFS with copies of all monitoring reports for planted native riparian species.

- 3a. The Corps shall specify in its permit that ODFW and NMFS be notified should the use of explosives be necessary to excavate bedrock.
- 3b. The Corps shall specify in its permit that any blasting plan developed by NWN, or its contractors, shall be approved by ODFW and NMFS.

Please direct any questions regarding this consultation to Scott Carlon of my staff at (503) 231-2379.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Stelle, Jr.", with a stylized flourish at the end.

William Stelle, Jr.
Regional Administrator

cc: John Marshall - FWS, Portland
Jim Grimes - ODFW, Clackamas

References

Section 7(a)(2) of the ESA requires biological opinions to be based on the best scientific and commercial data available. This section identifies the data used in developing this opinion in addition to the BA.

National Marine Fisheries Service (NMFS). 1997. Coastal coho factors for decline and protective efforts in Oregon. NMFS, Northwest Region, Habitat Conservation Program. 85 p.

Nickelson, T. E., J. W. Nicholas, A. M. McGie, R. B. Lindsay, D. L. Bottom, R. J. Kaiser, and S. E. Jacobs. 1992. Status of anadromous salmonids in Oregon coastal basins. Oregon Department of Fish and Wildlife, Research Development Section and Ocean Salmon Management, 83 p. Oregon Department of Fish and Wildlife, P.O. Box 59, Portland.

Weitcamp, L.A., T.C. Wainwright, G.J. Bryant, G.B. Milner, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status review of coho salmon from Washington, Oregon, and California. U.S. Dep. Commer., NOAA Tech Memo. NMFS-NWFSC-24, Northwest Fisheries Science Center, Seattle, Washington. 258 pages.